ONKYO

SKS-HT500

SERVICE MANUAL

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SAFETY PRECAUTIONS

1. SAFETY PRECAUTIONS

Before returning an instrument to the customer, always make a safety check of the entire instrument, including, but not limited to, the following items:

a. Be sure that no built-in protective devices are defective and/or have been defeated during servicing.

(1) Protective shields are provided to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience.

(2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including, but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning.

b. Be sure that there is no cabinet opening through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to , excessively wide cabinet ventilation slots and an improperly fitted and/or incorrectly secured cabinet back cover.

2. PRODUCT SAFETY NOTICE

Some electrical and mechanical parts have parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, ect. Parts that have special safety characteristics are identified by shading, by a (x) or (⚠) on the schematics and parts list. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. Product Safety is under review continually and new instructions are issued whenever appropriate.

3. SERVICING PRECAUTIONS

CAUTION: Before servicing instruments covered by this service manual and its supplements, read and follow the SAFETY PRECAUTIONS on this page.

NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions. Remember: Safety First.

General Servicing Precautions

a. Always unplug the instrument AC power cord from the AC power source before:

(1) Removing or reinstalling any component, circuit board, module, or any other instrument assembly.

(2) Disconnecting or reconnecting any instrument electrical plug or other electrical connection.

(3) Connecting a test substitute in parallel with an electrolytic capacitor in the instrument.

Caution: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

b. Do not defeat any plug/socked B+ voltage interlocks with which instruments covered by this service manual might be equipped.

c. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solidstate device heat sinks are correctly installed.

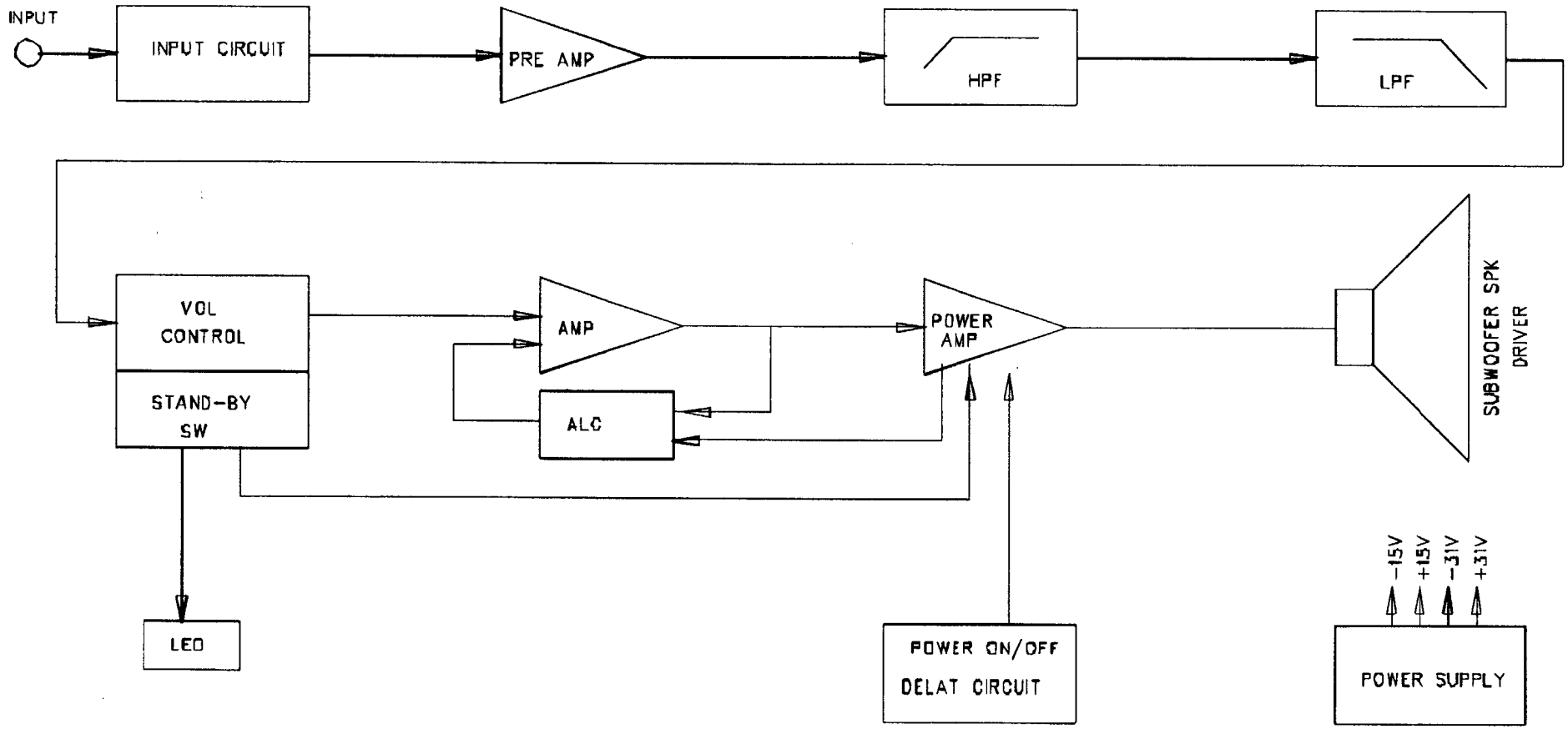
d. Always connect a test instruments ground lead to the instrument chassis ground before connecting the test instrument ground lead last.

Specifications

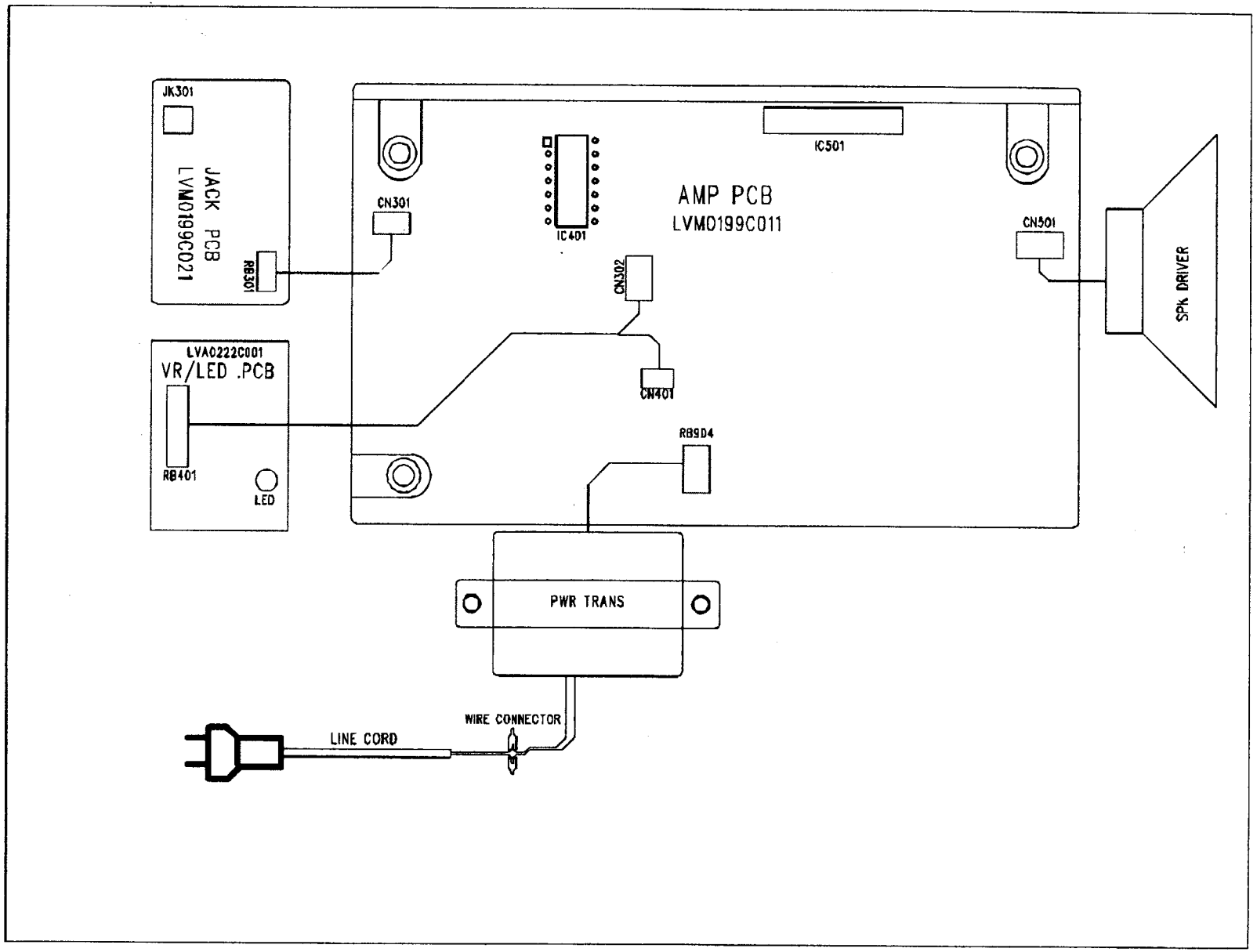
Type	Bass-reflex with built-in power amplifier
Frequency response	30Hz - 150Hz
Output Power	150 W Dynamic
Input sensitivity	220 mV
Input impedance	15kΩ
Woofer	8 inch cone type
Power supply	AC120V, 60Hz
Power consumption	75W
Dimensions (WxHxD)	9-1/4" x 20-5/16" x 16-3/16" / 235 x 516 x 411 mm
Weight	29.1 lbs. / 13.2 kg

* Specifications and appearance may subject to change for improvement without prior notice.

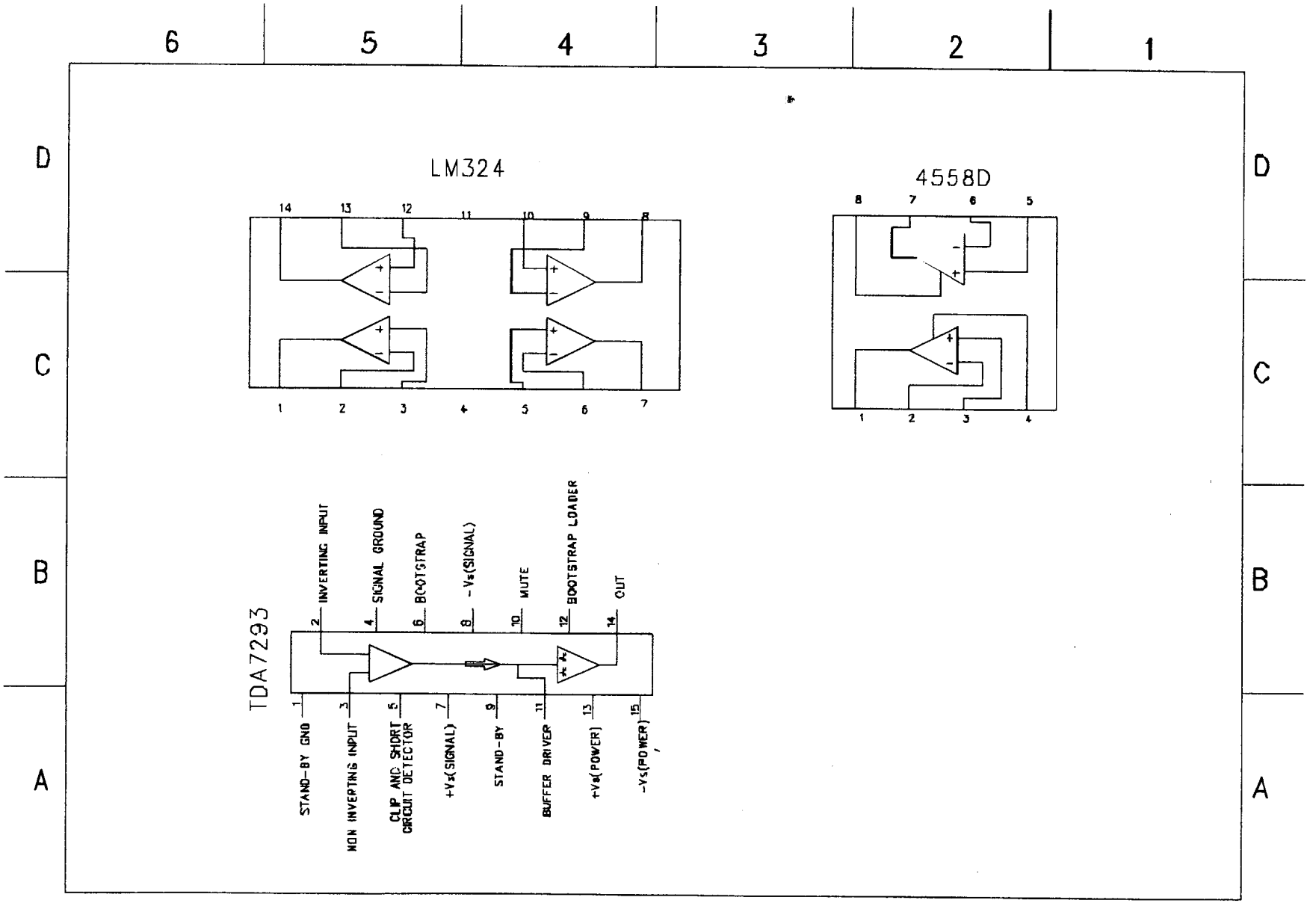
BLOCKDIAGRAM



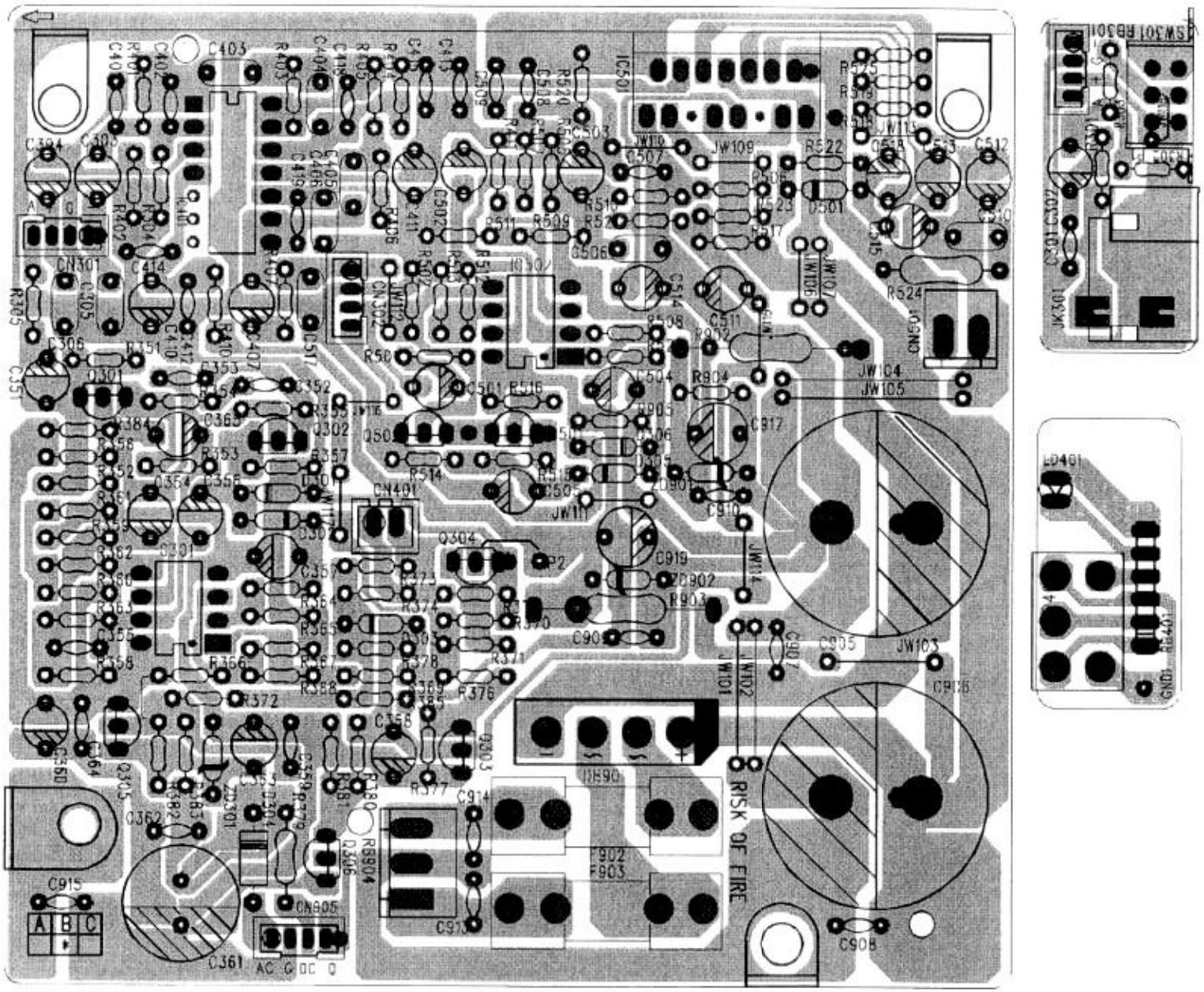
WIRINGDIARGRAM

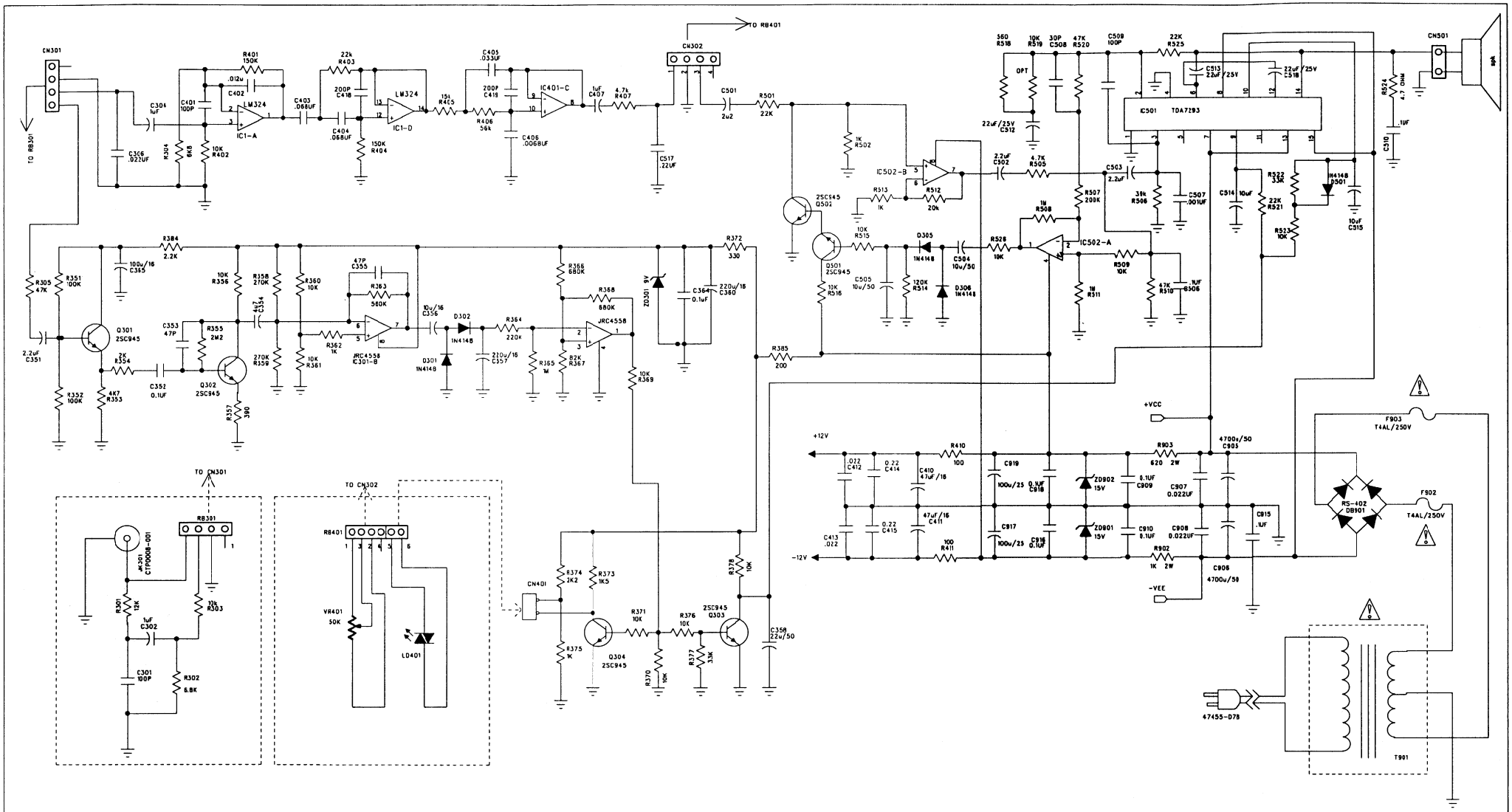


ICDIAGRAM


6
5
4
3
2
1
D
C
B
A
LM324
14 13 12 11 10 9 8
1 2 3 4 5 6 7
4558D
8 7 6 5
1 2 3 4
TDA7293
INVERTING INPUT
SIGNAL GROUND
BOOTSTRAP
-Vs(SIGNAL)
MUTE
BOOTSTRAP LOADER
OUT
STAND-BY GND
NON INVERTING INPUT
CLIP AND SHORT CIRCUIT DETECTOR
+Vs(SIGNAL)
STAND-BY
BUFFER DRIVER
+Vs(POWER)
-Vs(POWER)

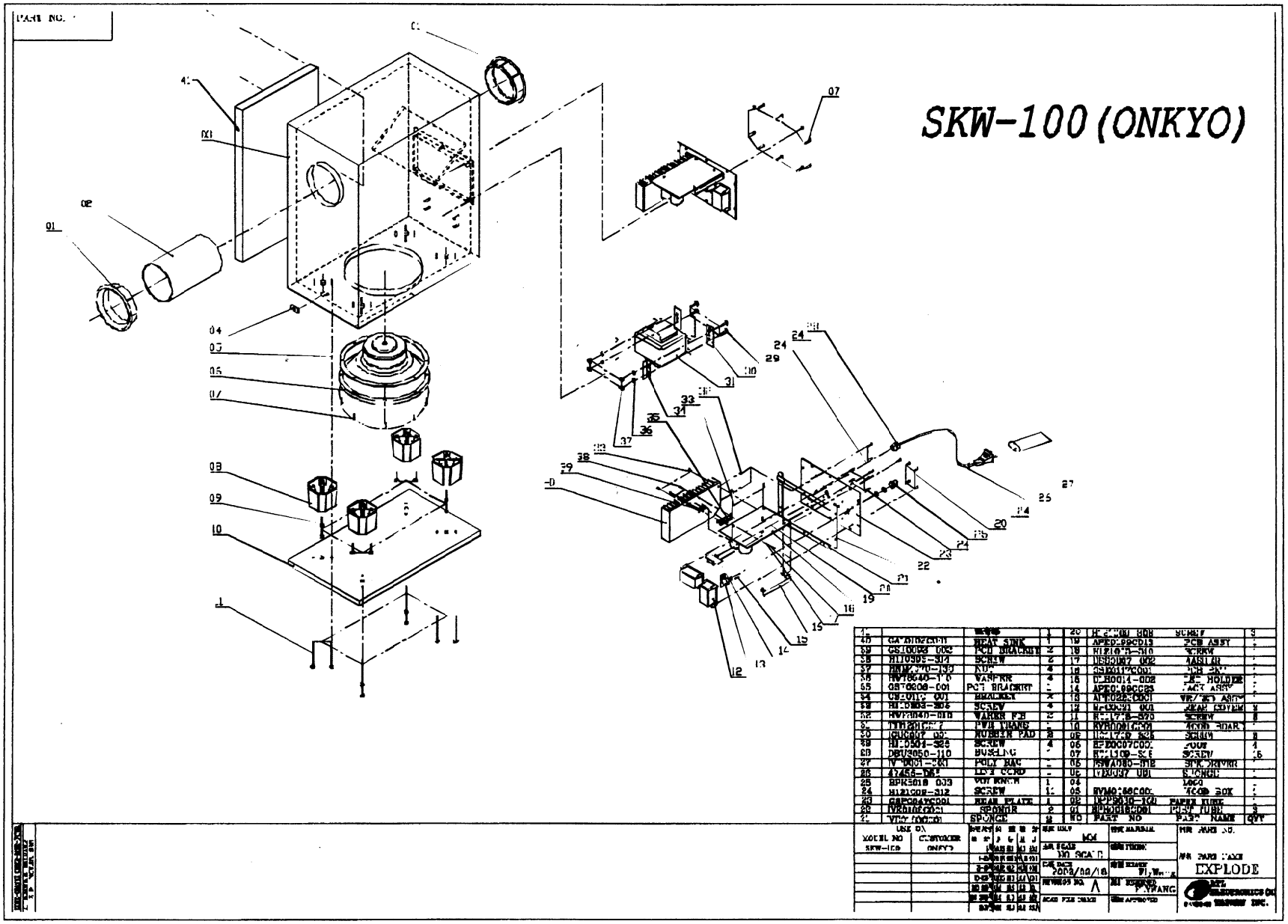
PCBBOARD





ONKYO SKW-100-1

EXPLODEVIEW



ELECTRIC PARTS LIST

PART	PDESC	SPECA	SPECB	UM	USQTY	WHUS
AFAKW100161	**MAIN UNIT**	**SUBWOOFER 100W 120V**	**SKW-100 ASI**	**PC**	**100.00**	
47455-D65	LINE CORD	SPT-2 1800MM POLARIZ	BLK DOUBLE INSULATE	PC	100.00	
FSWA080-312	SPK DRIVER	4 OHM 8" 100W	HYN:20LA0EHC2044	PC	100.00	
TTI1201C012	PWR TRANS	120V/60HZ100W SKW100	EI-76 DC30V DC2.3A	PC	100.00	
APE0199CA13	**MAIN ASSY**	**AI MAIN PCB ASSY**	**SKW-100**	**PC**	**100.00**	
AI20870-022	WIRE BARE	22 GA TINNED		GM	300.06	JW101-JW107.JW109-JW111.JW113-JW117. R372 1&8 FOR IC301.R366-1 & R382-1.
LVM0199C001	MAIN PCB	L126xW124xT1.6mm	HTD-K260	PC	100.00	
LVM0199C011	MAIN PCB	L114xW108xT1.6mm	HTD-K260	PC	0.00	
QAF0250-479	RESISTOR	4.7 OHM 1/2W 5% CF		PC	100.00	R524
QAF0650-101	RESISTOR	100 OHM 1/6W 5% CF		PC	200.00	R410 R411
QAF0650-102	RESISTOR	1K OHM 1/6W 5% CF		PC	300.00	R375 R502 R513
QAF0650-103	RESISTOR	10K OHM 1/6W 5% CF		PC	1000.00	R369 R370 R371 R376 R402 R509 R515 R516 R523 R526
QAF0650-105	RESISTOR	1.0M OHM 1/6W 5% CF		PC	200.00	R508 R511
QAF0650-124	RESISTOR	120K OHM 1/6W 5% CF		PC	100.00	R514
QAF0650-152	RESISTOR	1.5K OHM 1/6W 5% CF		PC	100.00	R373
QAF0650-153	RESISTOR	15K OHM 1/6W 5% CF		PC	100.00	R405
QAF0650-154	RESISTOR	150K OHM 1/6W 5% CF		PC	100.00	R401
QAF0650-184	RESISTOR	180K OHM 1/6W 5% CF		PC	100.00	R404
QAF0650-203	RESISTOR	20K OHM 1/6W 5% CF		PC	100.00	R512
QAF0650-204	RESISTOR	200K OHM 1/6W 5% CF		PC	100.00	R507
QAF0650-222	RESISTOR	2.2K OHM 1/6W 5% CF		PC	100.00	R374
QAF0650-223	RESISTOR	22K OHM 1/6W 5% CF		PC	400.00	R403 R501 R521 R525
QAF0650-333	RESISTOR	33K OHM 1/6W 5% CF		PC	200.00	R378 R522
QAF0650-393	RESISTOR	39K OHM 1/6W 5% CF		PC	100.00	R506
QAF0650-472	RESISTOR	4.7K OHM 1/6W 5% CF		PC	400.00	R407 R505 R904 R905
QAF0650-473	RESISTOR	47K OHM 1/6W 5% CF		PC	200.00	R510 R520
QAF0650-561	RESISTOR	560 OHM 1/6W 5% CF		PC	200.00	R385 R518
QAF0650-563	RESISTOR	56K OHM 1/6W 5% CF		PC	100.00	R406
QAF0650-682	RESISTOR	6.8K OHM 1/6W 5% CF		PC	100.00	R304
QAF0650-823	RESISTOR	82K OHM 1/6W 5% CF		PC	100.00	R377
RAD4148-001	DIODE SW	1N4148		PC	300.00	D305 D306 D501
RAZ0859-084	DIODE ZENR	14.5-15.1V 0.5W	HITACHI HZ15-2	PC	200.00	ZD901 ZD902
APE0199CA21	**JACK ASSY**	**A/I JACK PCB ASSY**	**HTD-K260**	**PC**	**100.00**	
LVM0199C021	JACK PCB	L37xW18xT1.6mm	HTD-K260	PC	0.00	
QAF0650-103	RESISTOR	10K OHM 1/6W 5% CF		PC	100.00	R303
QAF0650-123	RESISTOR	12K OHM 1/6W 5% CF		PC	100.00	R301
QAF0650-682	RESISTOR	6.8K OHM 1/6W 5% CF		PC	100.00	R302
APE0199CB13	**MAIN ASSY**	**RI MAIN PCB ASSY**	**SKW-100**	**PC**	**100.00**	
PRD1335-101	COND DISC	100 pF 50V 5%	NP0	PC	200.00	C401 C509
PRD1335-300	COND DISC	30 pF 50V 5%	NP0 T.C.	PC	100.00	C508
PRD3965-104	COND DISC	0.1 uF 50V +80-20%	Y5V III	PC	300.00	C909 C910 C915
PRD4965-223	COND DISC	.022 uF 50V +80-20%	II Z5V	PC	200.00	C412 C413
PRD4965-224	COND DISC	.22 uF 50V +80-20%	II Z5V	PC	200.00	C414 C415
PRD4967-223	COND DISC	.022 uF 100V +80-20%	II Z5V D=7	PC	200.00	C907 C908
PRE3952-470	COND ELECT	47 uF 16V 20%	85'C	PC	200.00	C410 C411
PRE3953-101	COND ELECT	100 uF 25V 20%	85'C	PC	200.00	C917 C919
PRE3953-220	COND ELECT	22 uF 25V 20%	85'C	PC	400.00	C518 C358 C512 C513
PRE3955-100	COND ELECT	10 uF 50V 20%	85'C	PC	400.00	C504 C505 C514 C515
PRE3955-109	COND ELECT	1 uF 50V 20%	85'C	PC	300.00	C501 C304 C407
PRE3955-229	COND ELECT	2.2 uF 50V 20%	85'C	PC	200.00	C502 C503

PART	PDESC	SPECA	SPECB	UM	USQTY	WHUS
PRM3737-102	COND MYLAR	0.001 uF 100V 5%		PC	100.00	C507
PRM3737-104	COND MYLAR	0.1 uF 100V 5%		PC	200.00	C506 C510
PRM3737-123	COND MYLAR	0.012 uF 100V 5%		PC	100.00	C402
PRM3737-223	COND MYLAR	0.022 uF 100V 5%		PC	100.00	C306
PRM3737-224	COND MYLAR	0.22 uF 100V 5%		PC	100.00	C517
PRM3737-682	C0ND MYLAR	0.0068 uF 100V 5%		PC	100.00	C406
PRM3737-683	COND MYLAR	0.068 uF 100V 5%		PC	300.00	C405 C403 C404
RAN0945-001	XISTR NPN	2SC945P		PC	400.00	Q303 Q304 Q501 Q502
APE0199CB21	**JACK ASSY**	**R/I JACK PCB ASSY**	**HTD-K260**	**PC**	**100.00**	
PRD1335-101	COND DISC	100 pF 50V 5%	NP0	PC	100.00	C301
PRE3955-109	COND ELECT	1 uF 50V 20%	85'C	PC	100.00	C302
APE0199CC13	**MAIN ASSY**	**HI MAIN PCB ASSY**	**SKW-100**	**PC**	**100.00**	
CCN1500-018	CONNECTOR	B2B-XH-A 2 PIN	POST BASE TOP P=2.5	PC	100.00	CN401
CCN3941-003	CONNECTOR	3 PIN PITCH=3.96 mm	POST BASE TOP	PC	100.00	RB904
CCN7879-022	CONNECTOR	2 PIN PITCH=2.0mm	B2B-PH-K TOP BASE	PC	100.00	CN301
CCN7879-024	CONNECTOR	4 PIN PITCH=2.0mm	B4B-PH-K TOP BASE	PC	100.00	CN302
CFC2557-001	FUSE CLIP	DIA5xL20mm FUSE		PC	400.00	FOR F902.F903.
DLH0014-002	LED HOLDER	2 PIN OD5xH15.2mm	PINGOOD LED-15A	PC	100.00	TO LED SUPPORT.
PVE3956-472	COND ELECT	4700 uF 63V 20%	DIA=25 PITCH=10 mm	PC	200.00	C905 C906
QHN2050-102	RESISTOR	1K OHM 2W 5%	METAL FILM	PC	200.00	R902 R903
RHD0402-101	RECTIFIER	RS402L 4A 100V	CHENG-YI	PC	100.00	DB901
RHI0324-001	IC 14 PIN	LM324N	QUAD OP AMP	PC	100.00	IC401
RHI4558-001	IC 8 PIN	JRC4558D JRC	OP AMP	PC	100.00	IC502
RHI7293-001	IC 15 PIN	TDA7293	POWER IC	PC	100.00	IC501
VWT1332-032	CON/WIRE	320mm UL1007#18	RED/BLK +6.4/-3.7	PC	100.00	CN501
APE0199CC23	**JACK ASSY**	**HI JACK PCB ASSY**	**SWK-100**	**PC**	**100.00**	
4999A-961	CON/WIRE	2P 110mm 1533#28 BRN	A=2mm B=2012(V)	PC	100.00	RB301
AI20870-022	WIRE BARE	22 GA TINNED		GM	16.67	1-2 FOR SW301.
CTP0008-001	RCA JACK	1P BLACK	RJ-1081-01-0300A	PC	100.00	JK301
APE0199CD13	**MAIN ASSY**	**CHASS.MAIN PCB ASSY**	**SKW-100**	**PC**	**100.00**	
KSA2400-104	FUSE	4A 250V SLOW	5x20mm RUL/VDE	PC	200.00	F902 F903
APE0222C001	**VR/LED ASY**	**VR/LED PCB ASS'Y**	**SKW-100**	**PC**	**100.00**	
4999A-960	CON/WIRE	6P 170mm 2468/1007/	2547 A=2/2.5 B=2512V	PC	100.00	RB401
CSL6521-004	SOLDER LUG	OD12.0xID8.4xL23.0	WITH 44mm BLK WIRE	PC	100.00	FOR GND.
KEM0002-006	LED	3 DIA GREEN/ORANG 2P	TWO COLORS CHANGE	PC	100.00	LD401
LVA0222C001	VR/LED PCB	L32xW16xT1.6mm 94V0	SKW-100	PC	100.00	
MRR0503-042	CNTL ROTRY	50KB L15xF7mm SINGLE	WITH SWITCH ON/OFF	PC	100.00	VR401

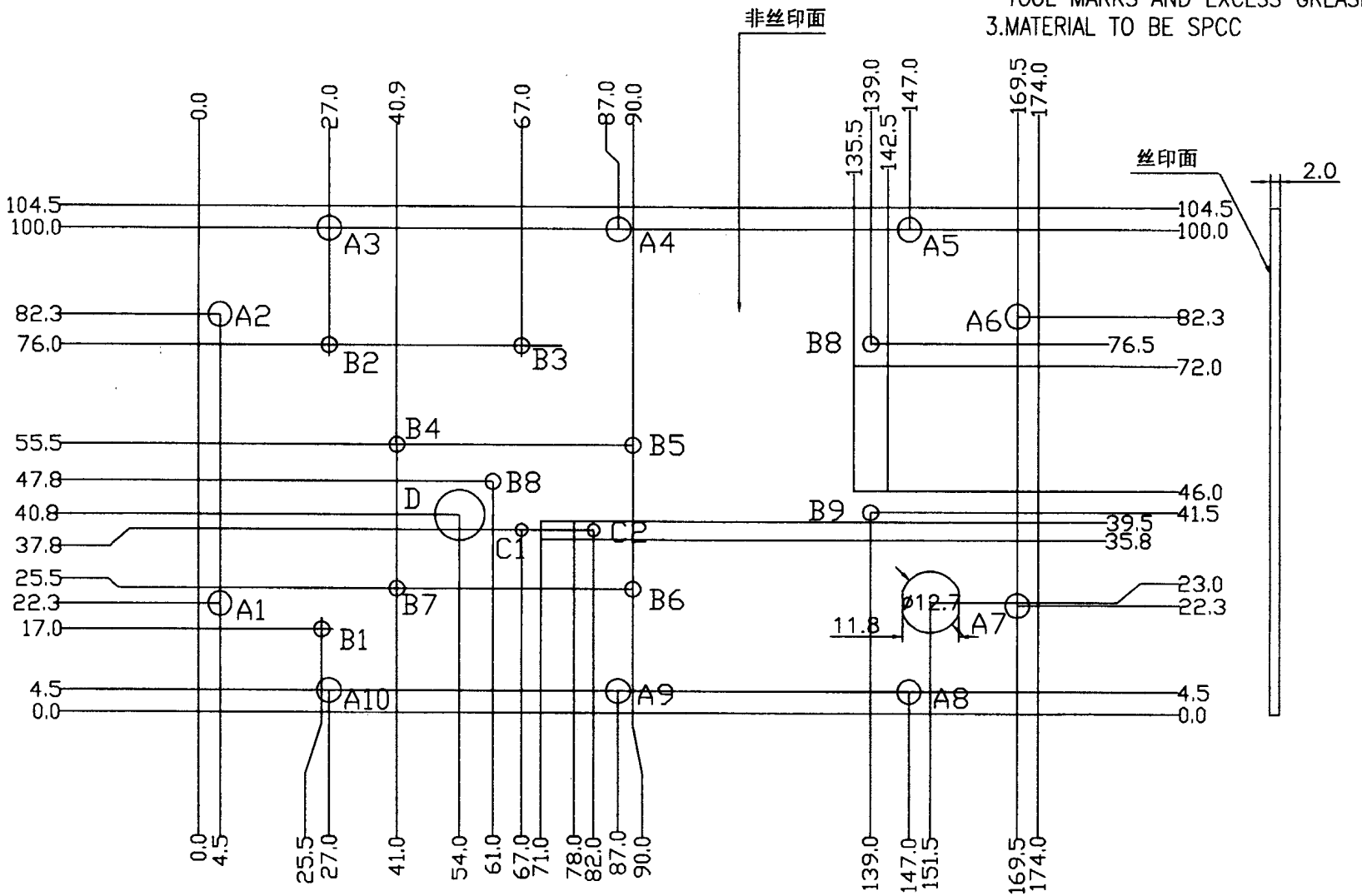
MECHANICAL PARTS LIST

PART	PDESC	SPECA	SPECB	UM	USQTY	WHUS
AFA0048C001	**WOODBOX AS**	**WOOD BOX ASS'Y**	**SKS-HT500 ASI**	**PC**	**100.00**	
BPR0018C001	PORT TUBE	ABS ID114.5xL29mm	BLACK/TEXTURE SW2001	PC	0.00	CONSIGNED BY EAH.
DPP9630-158	PAPER TUBE	ID96xT3.0xL158mm	SW2001	PC	0.00	CONSIGNED BY EAH.
EVM0056C001	WOOD BOX	W393xD230xH453mm	SKW-100	PC	100.00	
GSE0110-001	BRACKET	X'FORMER BRACKET		PC	200.00	FOR X'FORMER-2.
H011709-325	SCREW	T4x25mm	BLACK	PC	800.00	FOR FOOT TO WOOD BOX.
H110504-325	SCREW	M4X25X0.7mm	BLACK	PC	400.00	FOR X'FORMER-4.
HNM4070-130	NUT	M4.0xOD7.0xT3.0mm	NICKEL	PC	400.00	FOR X'FORMER-4.
HWT8540-110	WASHER	OD8.5xID4.0xT1.0 mm		PC	400.00	FOR X'FORMER-4.
ICU0007-001	RUBBER PAD	DIA 14.5mm	MICRO	PC	200.00	FOR X'FORMER-2.
AFAKW100161	**MAIN UNIT**	**SUBWOOFER 100W 120V**	**SKW-100 ASI**	**PC**	**100.00**	
BPC0021-001	REAR COVER		SW030	PC	200.00	TO REAR PLATE.
BPE0007C001	PLAS.FOOT	ABS L60xW60xH54.5mm	BLACK/TEXTURE	PC	400.00	WOOD BOX BOTTOM.
BPK5018-003	VOL. KNOB	BLACK	270 DEG	PC	100.00	
CCN0027-004	AC CONNTOR	AC CONNTECOR (HW-C3)	FOR WIRE #22-16	PC	200.00	
DBU3050-110	BUSHING	4K-4(HEAVY POWER)	AC LINE BUSHING	PC	100.00	
DTB0012-060	TUBE SHKNG	12 DIA 60mm BLACK		PC	200.00	FOR AC CONNECTOR.
DTB0016-035	TUBE SHKNG	16 DIA 35mm BLACK		PC	100.00	FOR AC CONNECTOR.
EVB0001C001	WOOD BOARD	L393xW230xT15mm	SWK-100	PC	100.00	
GSP0047C001	REAR PLATE	SPCC 190x120xT2.0mm	SKW-100	PC	100.00	
H011109-316	SCREW	T3.5xL16mm	BLACK	PC	1800.00	FOR REAR PLATE TO WOOD BOX-10.SPK. DRIVER-8.
H011708-370	SCREW	M4.0xL70xP1.41mm	BLACK	PC	800.00	TO WOOD BOX-8.
H121009-308	SCREW	M3.0xP1.06xL8 mm	BLACK	PC	100.00	PCB BKT TO REAR PLATE-1.
H121009-310	SCREW	M3x10	BLACK	PC	1100.00	REAR PLATE TO RCA JACK-1.REAR PLATE TO H/S-2. REAR PLATE TO COVER-8.
IVE0037-001	DRV SPONGE	D206xID184xT2mm	SANYO 50W	PC	100.00	FOR SPK. DRIVER-1.
IVE0095-001	COVER SPON	L55xW36xT2mm	SW030	PC	200.00	FOR COVER.
IVE0096-001	COVER SPON	L34xW4.5xT2mm	SW030	PC	200.00	FOR COVER.
IVE0182C001	SPONGE	120x10xT2mm	W/ADV. SKW-100	PC	200.00	FOR REAR PLATE TO WOOD BOX.
IVE0183C001	SPONGE	170x10xT2mm	W/ADV. SKW-100	PC	200.00	FOR REAR PLATE TO WOOD BOX.
YLB0005C031	SERIAL LAB	48x11mm	SKW-100	PC	300.00	FOR SUBWOOFER REAR PLATE-1.FOR CARTON-2.
APE0199CD13	**MAIN ASSY**	**CHASS.MAIN PCB ASSY**	**SKW-100**	**PC**	**100.00**	
DSS0007-002	WASHER	ID=3.0 OD=6.0 H=2.5	mm	PC	100.00	TO IC501.
GAL0102C001	HEAT SINK	AL 163x87x25	SKS-HT500	PC	100.00	FOR MAIN PCB IC.
GMI0005-001	MICA SHEET	26x22xT0.1mm	W/1 HOLE 3.3D	PC	100.00	FOR IC501.
GSE0093-002	PCB BKT	SECC T=1.0mm		PC	200.00	H/S TO PCB-2.
GSE0117C001	BRACKET	SECC T=1.0mm		PC	100.00	TO PCB.
GSE0206-001	IC BRACKET		AM715D	PC	100.00	FOR IC TDA7293.
H110303-308	SCREW	M3.0x0.5Px8 mm		PC	400.00	H/S TO PCB BRACKET-2.PCB BRACKET TO PCB-2.
H110303-314	SCREW	M3.0xL14.0X0.5P	BLACK	PC	200.00	FOR H/S TO IC BRACKET.
H121003-310	SCREW	M3.0xL10.0xP1.06mm	PAN HEAD BLACK	PC	100.00	FOR IC501.
H121009-308	SCREW	M3.0xP1.06xL8 mm	BLACK	PC	200.00	PCB BKT TO PCB-2.
HWF8040-010	WASHER FIB	OD8.0xID4.0xT1.0 mm	UNFINISHED	PC	200.00	FOR H/S TO REAR PLATE.
ASHT500-161	**BASE MODEL**	**SUBWOOFER 100W 120V**	**SKS-HT500 ASI**	**PC**	**0.00**	
EAT5001-301	SAT SPK AY	50W 8 OHM (5 PCS)	SKS-HT500 ASI	PC	100.00	
IVP0001-003	POLY BAG	L220xW80mm	W/RECYCLE	PC	100.00	FOR AC LINE-1.

PART	PDESC	SPECA	SPECB	UM	USQTY	WHUS
IVP0001-048	POLY BAG	L355xW240mm	W/RECYCLE MARK	PC	100.00	FOR O/M. & WARRANTY CARD.
IVP0001-167	POLY BAG	L900xW500xD100xT0.05	W/RECYCLE 4-HOLE	PC	100.00	FOR SUBWOOFER.
YOM0139C001	OWN MANUAL	English	SKS-HT500	PC	100.00	
YWC0031C001	WARTY CARD	CUSTOMER SUPPLY	SKW-100	PC	100.00	

PART NO. : 1.0
GSP100060-0001

NOTES:
1.PARTS MUST BE APPROVED BY ATL(M) ENGR. DEPT.
2.PARTS MUST BE FREE OF BURRS, SHARP EDGES, TOOL MARKS AND EXCESS GREASE.
3.MATERIAL TO BE SPCC



A	ø5.0	10
B	ø3.2	10
C	ø2.5	2
D	ø10.5	1

MODEL NO	DR420
CUSTOMER	
UNIT	MM
SCALE	1:1
DATE	MAY.07.2002
REVISION NO.	1.0
ACAD FILE NAME	
MATERIAL	SPCC T=2.0mm
FINISH	BLACK
DRAWN	
DESIGNED	
APPROVED	
PART NO.	GSP100060-0001
PART NAME	REAR PLT.

ATL ELECTRONICS(M) TAIWAN INC.